

The BougieCap:

A new method for treatment of esophageal strictures



Introduction

The underlying pathophysiology of benign strictures of the esophagus is mainly caused by an increased production of fibrous tissue following an inflammatory process. Serial endoscopic dilation with bougies or balloons has been established as the standard treatment of esophageal strictures. The drawbacks of these techniques are the lack of direct optical feedback of the bougienage and the need for fluoroscopic guidance during the procedure. The BougieCap allows direct visual control during the bougienage.

Methodology

The BougieCap is a single-use, clear, conical, endoscopic cap which can be used for endoscopic treatment of GI strictures. The endoscope with the mounted cap acts as mediator for the applied radial and longitudinal force vectors. Bougienage therapy with the BougieCap for treatment of stenosis was investigated within the framework of a prospective, interventional study conducted at three endoscopy units in Germany and UK between February and July 2018. 50 Patients (≥ 18 years) with benign stenosis of the esophagus were enrolled for study. Primary endpoint of the study was success of endoscopic dilatation, secondary endpoint was alteration of symptoms of dysphagia, as assessed by Dysphagia Handicap Index (DHI), before and 14 days after bougienage.

Results

Endoscopic bougienage was successful in 96 % of all cases. In two cases bougienage failed because high resistance led to buckling of the endoscope in the pharynx. Symptoms of dysphagia (DHI) decreased after bougienage in short-time follow-up. Adverse events were loss of BougieCap in the stomach in two cases which evacuated spontaneously with the stool. No major complications occurred.

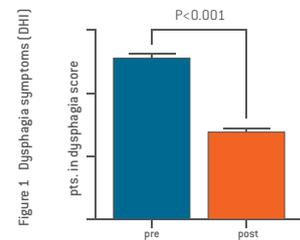


Table 2: Endoscopic results

Successful bougienage (n)	48
BougieCap sizes used per session (mean \pm SD)	2.3 \pm 0.7
Applications with guide-wire (n)	
Pediatric gastroscop	8
Standard gastroscop	2

Summary and Conclusions

The endoscopic treatment of benign stenosis using the BougieCap enables direct visual control of the bougienage procedure. This might help to adapt endoscopic treatment even more precisely to the stricture. Symptoms of dysphagia are improved in short-term follow-up.

Usage of a guidewire is reasonable and necessary in special cases (i.e. very high-grade stenosis, usage of a pediatric gastroscop).



Table 1: Patients characteristics

n	50
Sex (m/f)	25/25
Age (mean \pm SD)	67.1 \pm 16.8
Origin of stenosis, n (%)	
Peptic	23 (46)
Radiation	13 (26)
Anastomotic	6 (12)
Caustic ingestion	4 (8)
Post-ESD	2 (4)
EoE	1 (2)
Unknown	1 (2)

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